

What is claimed is:

1. A method for facilitating modification of a hardware state of a fixture system, comprising:

selecting a macro of one or more compiled macros in response to one or more stimuli, wherein:

said one or more macros are created using a high-level programming macro language;

compiling one or more macros into a format recognizable by an interpreter residing within a fixturing device;

transferring the one or more compiled macros to a firmware residing within the fixturing device; and

the firmware running the triggered macro and executing one or more commands contained therein in response thereto.

2. The method of claim 1, wherein each of the one or more commands are interpreted sequentially

3. The method of claim 1, wherein the high level macro programming language may be determined by the fixturing system..

- 1 4. The method of claim 1, wherein the one or more macros are compiled
2 external to the fixturing device.
- 3
- 4 5. The method of claim 1, wherein prior to the firmware interpreting the
5 triggered macro, a triggered macro byte code is transferred to a local
6 memory of the fixturing device.
- 7
- 8 6. The method of claim 1, wherein the macro is triggered by one or more
9 internal events corresponding to one or more hardware states of the
10 fixturing device.
- 11
- 12 7. The method of claim 6, wherein the one or more internal events are
13 stored in a nonvolatile memory of the fixturing device.
- 14
- 15 8. The method of claim 1, wherein the macro is triggered by one or more
16 external commands transmitted by a control software module.
- 17
- 18 9. The method of claim 8, wherein the control software module is a
19 compiler for the one or more macros.
- 20
- 21 10. The method of claim 1, wherein the one or more macros are compiled
22 into byte code.
- 23
- 24 11. The method of claim 10, wherein the byte code is downloaded into a
25 nonvolatile memory of the fixturing device.
- 26

1 12. The method of claim 11, wherein one of a revision code is downloaded
2 with the byte code, said revision code operable to determine a version
3 of one or more macros currently loaded within the fixturing device.
4

5 13. The method of claim 12, wherein during a system initialization, further
6 comprising:
7

8 a control software comparing a first macro revision with a
9 second macro revision determined by a default macro file; and
10 if the first macro revision and the second macro revision are not
11 equivalent, the control software compiling and downloading the one
12 or more macros from a file.
13

14 14. A structure that facilitates a modification of a hardware state of a
15 fixturing device, further comprising:
16

17 a supervising automation software module, coupled to a control
18 software module, said automation software module operable to
19 initiate operation of the structure; and
20

21 a fixturing device, coupled to the control software module, said
22 fixturing device further comprising:
23

24 a firmware module, said firmware module operable to
25 receive one or more stimuli, preferably corresponding to
26 one or more hardware state changes of said fixturing
27 device;

one or more local memory modules, coupled to the firmware module, said local memory modules operable to contain one or more compiled macros and one or more stimuli preferably corresponding to one or more hardware states; and

the one or more macros, in response to the firmware module receiving one or more stimuli, causing one or more hardware states of the fixturing device to be changed.

15. The structure of claim 14, wherein the one or more stimuli are events receivable by the firmware module.

16. The structure of claim 14, wherein the one or more stimuli are commands receivable by the firmware module.

17. The structure of claim 14, wherein the control software module is coupled to the fixturing device via an electronic transmission cable.

18. The structure of claim 14, wherein one or more of the one or more local memory modules are nonvolatile.

19. The structure of claim 14, wherein the firmware module is operable to change one or more hardware states in response to the one or more stimuli.

- 1 20. The structure of claim 14, wherein the one or more compiled macros
2 were previously compiled using the control software module.
3
- 4 21. The structure of claim 14, wherein the one or more compiled macros
5 are operable to be interpreted during an operational mode of fixturing
6 device.
7
- 8 22. The structure of claim 14, wherein the control software module sends
9 one or more commands, receivable by the firmware.
10
- 11 23. The structure of claim 22, wherein the firmware module, upon
12 receiving the one or more commands, executes one or more macros
13 contained within the one or more local memory modules.
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